

In the Claims:

1 - 9. (cancelled)

10. (new) A cyclonic separation apparatus comprising a cylindrical vortex-starting chamber and frusto-conical cyclonic separation chamber, wherein the separation chamber is formed from a first frusto-conical region and a second frusto-conical region, the first region has a larger cone angle than that of the second region for the purpose of reducing the overall axial length of the cyclone separation chamber, the cone angle of the first region being in the range 40° to 80° and that of the second region being in the range 16° to 28° , the apparatus further comprising a particle and/or liquid collecting bin downstream of the second separation region, and being arranged to separate dry particulate material or liquid from air and for collecting the particulate material or liquid in the bin.

11. (new) Separation apparatus as claimed in claim 10 further comprising a central tubular member which extends axially of the cylindrical chamber and comprises a vortex starter and the wider end of the first frusto-conical region begins in the region of the upstream end of the central tubular member.

12. (new) Separation apparatus as claimed in claim 11 wherein the wall of the upstream end of the central tubular member is apertured and the frusto-conical wall of the first region, which is close to the apertured lower end of the central tubular member, in use forces a progressive reduction in radius on the circulating airstream and therefore a corresponding increase in its rotational velocity in the region of the apertures and just before the airstream enters the second frusto-conical cyclone section.

13. (new) Separation apparatus as claimed in claim 10 wherein the two cone angles are 68° and 20° respectively.

14. (new) Separation apparatus as claimed in claim 10 wherein the two cone angles are 64° and 24° respectively.

15. (new) Separation apparatus as claimed in claim 10 wherein reduction in overall axial length of the cyclone separation chamber causes the latter to protrude to a lesser extent into

the collecting bin than if a single frusto-conical region were employed having the same cone angle as the second region and the same entrance diameter as the cylindrical vortex-starting chamber, thereby increasing the available storage volume of the bin.